

The application of social impact bonds to universal health-care initiatives in South-East Asia

Michael Belinsky, Michael Eddy, Johannes Lohmann, Michael George

Quick Response Code:



ABSTRACT

Social impact bonds (SIBs) have the potential to improve the efficiency of government health-care spending in South-East Asia. In a SIB, governments sign a pay-for-performance contract with one or several providers of health-care services, and the providers borrow up-front capital from investors. Governments outside South-East Asia have started to experiment with SIBs in criminal justice, homelessness and health care. Governments of South-East Asia can advance the goal of universal health care by using SIBs to improve the efficiency of health-care service providers and by motivating providers to expand coverage. This paper describes SIBs and their potential application to health-care initiatives in the Region.

Key words: development, health policy, payment for results, social impact bonds, South-East Asia, universal health care

Instiglio Inc., Cambridge,
Massachusetts, United States of
America

Address for correspondence:

Mr Michael Belinsky, 100 Cedar
Knoll Ct., Roswell, GA 30076,
United States of America
E-mail: mike.belinsky@instiglio.org

INTRODUCTION

Social impact bonds (SIBs) have gained attention worldwide, for their promise to increase funding for social programmes, improve social outcomes and create enduring partnerships among participants from the private, social and public sectors. However, the application of SIBs to health care in development remains largely unexplored. This paper describes SIBs and their potential application to health-care initiatives in South-East Asia, with a focus on their potential contribution to universal health care.

WHAT IS A SOCIAL IMPACT BOND?

A SIB is an innovation in the way social services are contracted, financed and delivered, which has the potential to dramatically improve societal outcomes through the involvement of private capital. Unlike traditional government contracts, where governments must provide up-front funding, in a SIB, private investors provide the needed capital. A typical SIB contract requires that the government repays these investors, with a return on their investment, only if those providers successfully achieve an agreed-upon outcome. For example, instead of paying an organization providing health-care services based on how many individuals go through its programme, the contract would trigger a repayment only if there was a resulting improvement in health. This innovative approach ensures that

government funds are spent only on social programmes that succeed. While investors in SIBs may receive an investment return from the government, they also take on the financial risk, as they typically stand to lose a portion of their investment if social outcomes do not improve. The rate of return varies, depending on the level of risk the investor chooses to assume, and the higher the guarantee they receive on their investment, the lower the rate of return will be. An independent evaluator validates the result with a rigorous analysis, such as a randomized controlled trial.

SIBs are receiving increasing attention worldwide, as a novel tool with the ability to reform and improve social services. The first SIB was created in the United Kingdom of Great Britain and Northern Ireland (UK) in 2010. Since then, at least two dozen local, state and national governments have started designing SIBs in Australia, Canada, Israel, the United States of America (USA), the UK and elsewhere.¹ In the UK and the USA, where SIBs have received the most attention, governments have started designing supporting institutions for SIBs. President Barack Obama has proposed allotting nearly US\$ 500 million of the fiscal year 2014 budget for the US Government to facilitate the creation of pay-for-success contracts.² The UK Cabinet Office has created the Centre for Social Impact Bonds to educate and assist SIB designers.³

SIBs hold promise for creating alignment among government agencies, private investors and non-profit organizations,

to improve the outcomes of overburdened and resource-constrained governmental social service programmes. The SIB accomplishes this by (i) establishing clear rewards for investors, in return for providing risk capital; (ii) providing unambiguous metrics that align each stakeholder to the same outcome; and (iii) establishing a contractual framework that allocates shared responsibilities and clear expectations among the parties involved. Successful SIBs are designed to provide valuable benefits for all participants, including creating sustainable multi-year funding for effective non-profit service organizations; delivering increased and improved social services to disadvantaged individuals and communities; building accountability into government-sponsored programmes; improving outcomes for overburdened government social service agencies; and generating social, and potentially financial, returns for investors.

Liebman (2011) suggests that successful SIBs must have the following characteristics:⁴

- (i) be a political priority, with a strong commitment from government champions;
- (ii) have a measurable outcome, with credible outcome metrics that generate incentives that induce the right behaviour from the service provider;
- (iii) have a reasonable time horizon between service delivery and observable outcomes;
- (iv) be evidence based, as investors must have confidence that an established, reputable organization will deliver an effective, evidence-based intervention. To the extent that existing evidence fails to convince investors of the likelihood of success, they will demand higher premiums to offset higher risk;
- (v) have a high social return, as SIBs are a cost-effective but expensive way to finance a social programme. Social returns must be sufficiently high to warrant the cost of capital and cost of structuring.

THE ROLES OF THE DIFFERENT PARTIES COOPERATING IN A SOCIAL IMPACT BOND PROGRAMME

A SIB programme is usually created with the assistance of an intermediary organization. This organization's role is to: (i) establish a relationship between the government, the service provider or set of providers, the investors, and the independent evaluators; (ii) bid on and receive pay-for-success contracts issued by the government; (iii) identify investors, government officials and service providers, and educate them about the pay-for-success contract programme; (iv) evaluate service providers for their services' applicability to the pay-for-success contract programme; and (v) negotiate and establish relationships with service providers, for the purpose of applying to pay-for-success contracts issued by the government.

An intermediary like Instiglio is responsible for designing and implementing the SIB funding model. Working with the various stakeholders, it advises on key design choices, including defining the social outcome, setting reasonable

targets and creating the right metrics to evaluate impact. It also manages the stakeholder engagement and contract-building process, designing the funding model, and channelling up-front financing from investors to the service provider.

A service provider is an organization that operates a social service programme through a pay-for-success contract. Having received financing from investors, the service provider works with the intermediary and the government to create and deliver reports on programme outcomes. Service providers may be non-profit or for-profit organizations, although most previous service providers that have operated through pay-for-success contracts have been non-profit organizations. The service provider may be a set of different non-profit organizations that collectively provide a set of services through a pay-for-success contract.

An evaluator is an organization that is competent in conducting evaluations of social programmes and is independent in its interests and affiliations from the government, the service providers and the intermediary. The government is one or several government agencies that are involved in the identification of the right intervention and the design and negotiation of the pay-for-success contract around that intervention, and responsible for disbursing the payment to the intermediary in the event that its services achieve predetermined outcomes.

Investors may be individuals, foundations or financial institutions. These investors make project-specific investments in a special-purpose vehicle created for such investment. They receive from this vehicle their investment principal plus predetermined interest, often contingent upon the achievement of certain outcome goals. For some investors, the predetermined interest is zero, and their investment counts as a donation. For other investors, predetermined interests are greater than zero, and their investment yields returns. The rate of return is contingent on the level of capital guarantee negotiated between the investor and the outcome payer. A higher guarantee mitigates the risk assumed by the investor but lowers the expected rate of return. Because the contract pays only for success, in the event of a non-performance, investors may lose part of their investment. Service providers are for-profit or non-profit organizations that will be delivering social services to the population defined in the pay-for-success contract.

WHAT IS THE VALUE OF A SOCIAL IMPACT BOND?

SIBs fit into a broader family of pay-for-performance and results-based financing schemes, which have shown past success in addressing social problems in international development. Existing programmes that link funding to results take a variety of forms, from official development aid paying governments directly for high-level outcomes achieved ("results-based aid" or RBA), to paying service providers for completing a series of activities or outputs ("results-based finance" or RBF).⁵ These programmes are also known as performance-based aid and performance-based finance, respectively.

SIBs are distinct from current initiatives in at least four ways:

- (i) they involve private-sector investment to solve a prefinancing gap. This broadens participation, by enabling service providers who may not have access to the initial capital otherwise to participate;
- (ii) they can generally transfer more performance risk. This allows governments to write more high-powered performance contracts with providers;
- (iii) their structure focuses on outcomes, such as decreased incidence of disease, rather than outputs, such as the number of vaccinations provided;
- (iv) they focus attention on the relationship between a donor, government and service provider.

Because of their inherent structure, SIBs address two potential problems with existing RBF and RBA schemes. The first is uncertainty about the source of up-front funding for interventions, especially where governments or agencies have limited resources. The second is the concern that the service providers or recipient governments will be unable to bear implementation risk, or the risk that the funded interventions do not deliver the desired impact. This latter barrier is especially important for expanding promising interventions that have not yet been implemented or researched at scale. Additionally, as noted in a recent Social Finance UK report, SIBs also have “enormous potential to serve as a platform for *development cooperation* – an instrument that brings together the best of the private sector, civil society organizations, and donors and provides a way to enhance coordination among them”.⁶

A SIB contains characteristics similar to those found in the Global Alliance for Vaccines and Immunization (the “GAVI Alliance”). The GAVI Alliance was created in 2000 to increase access to immunization for children in developing countries.⁷ In 2006, with the creation of the International Finance Facility for Immunization (IFFIm), the GAVI Alliance created an innovative financing mechanism whereby it issues “vaccine bonds” on international capital markets, backed by the long-term expected contributions from nine donor governments. Like in a SIB, the use of these bonds allows for the conversion of pledges, or future funding, into present-day cash reserves, allowing the GAVI Alliance to nearly double its funding for immunization programmes.⁸ The GAVI Alliance uses the proceeds from these bonds to negotiate purchasing and distribution agreements with major manufacturers and distributors of a select number of vaccines, in addition to other programmes that strengthen health systems worldwide.⁷

Similarly, although SIBs may not increase the total amount of funding available in the health-care system, they may introduce a new source of funding. The SIB allows service providers, such as clinics and health-care facilities, to access private investment capital to fund operations over the duration of a programme. Investors would lend, in expectation of payment from the government once the service provider delivers successful outcomes. Such access to large amounts of up-front funding may be especially valuable to small health-care providers, who may otherwise have limited access to private capital.

CHALLENGES TO UNIVERSAL HEALTH CARE IN SOUTH-EAST ASIA

Despite pledging commitments to establish universal health coverage, countries of South-East Asia suffer low public expenditure on health, high rates of out-of-pocket (OOP) expenditure, and highly unequal health outcomes. Countries in the region spend less on health, both as a share of gross domestic product and per capita, than countries at similar levels of development.⁹ Indeed, in Indonesia, Lao People’s Democratic Republic and Cambodia, total health expenditure is below the minimum US\$ 49–54 per capita estimated to be necessary to meet the Millennium Development Goals.¹⁰ Low public spending correlates with the predominant role of private expenditure in financing health care in the region. On average, 70% of total health expenditure is in the form of OOP payments, leading to a large proportion of households facing catastrophic health expenditure, defined as spending more than 10% of total consumption expenditure on health.¹⁰ The result is large and persistent inequalities in health outcomes across income groups and geographical areas. In some countries, such as China, there is evidence that rural–urban inequalities have increased.¹¹

There are three main impediments to the successful implementation of universal health care in South-East Asia. First, sources of inefficiency limit the availability of public-sector resources for health care. In particular, a lack of contract selectivity and evaluation, and an overreliance on fee-for-service payments generate perverse incentives. Service providers are not held accountable for outcomes and are rewarded based on inputs, leading to cost escalation and a lack of responsiveness to patient needs. Additionally, service packages funded under universal coverage schemes tend to be influenced by political and social factors, rather than considerations of allocative efficiency, leading to a concentration of resources in treatment, rather than preventive, services; tertiary care centres; and urban health facilities.⁹

Second, limited government revenues mean that the most common financing approach for health care is compulsory social insurance programmes for employees. In many countries, this creates problems of coverage for the majority of the population that makes up the informal sector, and also for the poor and vulnerable. In Thailand, the Philippines and Viet Nam, subsidized voluntary health insurance schemes targeted at informal-sector groups have had limited take-up. Tax-financed targeted health schemes for the poor have generally suffered from a lack of funding, affecting the breadth and depth of coverage. For example, Indonesia’s targeted scheme provided a per capita government subsidy of only US\$ 6 per year for a package of outpatient and inpatient services, resulting in low-quality provision and low utilization.¹⁰

Finally, social health insurance schemes commonly provide only limited financial protection, necessitating high rates of OOP payments, which further prevent access to poor groups. For example, under the Philippine Health Insurance Corporation (PhilHealth) compulsory scheme, outpatient services are not covered and inpatient care is only partially reimbursed, so that patients must pay additional bills beyond

the level of reimbursement.¹⁰ This is even the case in high-income countries. In the Republic of Korea, co-payments and deductibles account for 20% of expenditures for inpatient care and 30–55% of outpatient care.¹⁰

USING SOCIAL IMPACT BONDS TO ADVANCE UNIVERSAL HEALTH CARE IN SOUTH-EAST ASIA

Although SIBs are not a panacea, they have the potential to become one among several useful tools to advance universal health care throughout South-East Asia.

As already described, a major barrier to the expansion of universal health care in South-East Asia is the cost–effectiveness of services and the inefficiency of service provision. The concept of efficiency in health-care provision can be separated into allocative, technical and dynamic efficiency. Allocative efficiency considers whether every additional dollar is invested in the optimal way – for example, for treatment versus prevention. Technical efficiency asks whether a combination of money, doctors and medicine simultaneously minimizes costs and maximizes outcomes for a given procedure. Dynamic efficiency asks whether the rate of change in the health-care system is optimal.¹² SIBs hold potential for improving all three types of efficiency.

SIBs can increase allocative efficiency by motivating the transition of a health-care system from treatment to prevention. Many acute health-care conditions, such as HIV, are far cheaper to prevent than to treat. Yet, overburdened health-care systems that may be interested in preventing the conditions they treat struggle to find additional financing to facilitate that transition. Through a SIB, a health-care ministry can create a contract to increase prevention of a costly ailment, and pay for that service from the expected reduction in resulting treatment costs.

SIB contracts emphasizing the achievement of outcomes can also improve technical efficiency, to motivate a health-care provider to better allocate existing resources within a particular intervention to improve outcomes. For example, health-care providers that receive capitation payments, as in Thailand, face incentives to minimize cost per reimbursed procedure. As such, a health-care system may motivate providers to transition towards more effective procedures, by changing capitation levels between procedures. SIBs offer a mechanism for a health-care system that would incentivize providers not only to minimize costs, but also to maximize outcomes. For example, the New York Medicaid Program in the USA has recently explored a pay-for-performance scheme to reduce the number of hospital readmissions.¹³ In this scheme, hospitals with higher case-mix-adjusted readmission rates receive lower capitation payments. If these payments offset revenue loss from having fewer patients and a potential increase in per-patient cost of treatment, then they may motivate hospitals to use evidence-based readmission-reduction interventions, such as the use of in-hospital patient advocates.¹³

In theory, SIBs would motivate health-care providers to create innovative allocations of money, personnel and other resources, for the purpose of improving technical efficiency and thereby

improving health-care outcomes. However, the exact level of innovation a SIB would create remains to be seen. On the one hand, health-care providers would face a financial incentive to experiment with new delivery systems, because better delivery systems would improve outcomes and thereby increase the outcomes-based payment to the health-care providers. On the other hand, health-care providers face a financial disincentive to stray too far from proven delivery systems, because a failure to deliver health-care outcomes would reduce the outcomes-based payment that they receive.

It is too early to tell for certain whether SIBs can make a significant improvement in the dynamic efficiency of the health-care system. The ability of SIBs to improve dynamic efficiency may be increased if they are designed within a broader initiative that funds the discovery of effective health-care interventions. The partnership between private investors and health-care providers may improve the quality of the providers' performance management systems and thereby increase the rate of learning for the provider.

A further advantage of applying the results-based SIB model to health care in South-East Asia is that it may increase coverage and service utilization for the informal sector and low-income groups. The results-driven framework of SIBs, as well as their long-term focus, makes them effective in improving service quality and, as a consequence, utilization rates. Additionally, SIBs may be used to directly incentivize the utilization of services by beneficiaries.

Numerous studies show that the poor quality of health-care services is a major determinant of low utilization rates such as those seen in South-East Asia. For example, in a review of performance-based health care, the German Society for International Cooperation noted that perceived quality is an important determinant of health-care utilization – indeed, that “often the women themselves opt against delivering in a health facility due to either the poor quality of services, financial barriers, the lack of information on the risks of motherhood, or the prevailing traditional norms”.¹⁴ Similarly, a comparative review of studies of maternal health care in the developing world has found that perceived quality of care can be, depending on the context, a key determinant of utilization.¹⁵

As such, if a SIB funds a successful health-care service, an evaluation shows that the service generated successful health-care outcomes, and potential patients who might demand that service perceive that the SIB generated a higher-quality result, the utilization of that service may potentially increase. This is aided by the fact that SIBs typically include a rigorous evaluation, such as a randomized controlled trial, that helps the government determine whether the outcome for which it is paying was created by the programme or by chance.¹⁶ Studies have shown that supply-side RBF schemes can also improve the quality of services, which, in turn, increases utilization.

In addition to increasing quality, the available evidence suggests that SIBs can also help increase health-care coverage. Strong evidence exists that utilization rates increase dramatically with voucher schemes incentivizing the utilization of maternal, newborn and child health-care services,

as well as the proportion of women using antenatal and postnatal care services, and whose deliveries are assisted by trained providers.¹⁴ A World Bank-funded comparative review of performance-based and non-performance-based health schemes in the Butare, Cyangugu, Gikongoro and Kibungo provinces of Rwanda found that provinces with performance-based financing (PBF) showed the largest increases in curative and preventive services.^{17,18} For example, PBF-based schemes demonstrated an 11% increase in measles coverage, while non-PBF-based schemes showed an increase of just 1%. Similarly, PBF-based schemes demonstrated an increase of institutional deliveries of almost 11% between 2001 and 2004, while non-PBF schemes showed an increase of just 3%. Innovative strategies introduced under PBF-based schemes included “the establishment of additional centers to bring services closer to beneficiaries, paying traditional birth attendants to bring women to health centers, and providing clothing for newborns as an incentive to attract women to deliver”.¹⁷

Finally, SIBs may be effective in reducing the high levels of OOP expenditure that characterize health-system financing in South-East Asia. A quasi-experimental evaluation of the Rwanda results-based financing scheme shows that consumers paid less OOP in the RBF clinics than in non-RBF clinics.¹⁹ In that scheme, payments to health-care facilities by the government were conditional on the quantity of health care delivered. Health-care providers may have been motivated to reduce charges to prospective patients to increase utilization. This suggests that SIBs that include output metrics in the basis of payment to providers may similarly motivate providers to reduce OOP fees, while having the additional benefit of transferring the financial risk of non-delivery to private investors.

As such, SIBs and other results-based finance programmes may improve process and output parameters such as utilization and coverage, care quality, and equity. However, the lack of robust health-outcome data, the variability of programme design, and the nascent stage of many RBF programmes necessitates that attention be paid to the specific contexts and modes of implementation for each programme.¹⁴

Although SIBs hold promise for enabling the improvements described above, this innovation is unlikely to address other barriers to implementing universal health-care initiatives in South-East Asia, such as low public revenue.²⁰ Although SIBs may introduce a new source of funding, they are unlikely to increase drastically the amount of funding available for expanding health care. Thus, SIBs should be viewed as one of a number of useful tools to usher in universal health care in South-East Asia.

CHALLENGES OF CREATING A SIB

This section notes three main challenges that designers of a health-care SIB in South-East Asia are likely to face. First, SIB designers will have to find ways to reduce the up-front cost of creating a SIB. Initial SIB pilots have been shown to be significantly more expensive than the cost of service delivery alone, for two reasons. First, in a SIB, government or donors

pay a premium above the cost of service delivery, for the certainty that the outcome has been delivered. Second, SIB designers will probably need outside advice. Governments in low- and middle-income countries have needed outside advice to understand how their procurement systems and existing contract types can be used to create a SIB. Some governments in high-income countries have resolved these problems by hiring outside legal counsel and bypassing legislation. Others have hired additional staff to focus on SIB design.

A second, and related, challenge is that SIB designers will have to find ways to reduce the duration and complexity of up-front work, such as legal assistance in drafting a novel type of contract, and the cost of performance monitoring by an intermediary. Some governments have overcome high costs of initial pilots by obtaining pro bono services from outside experts, by sharing the cost burden with other government agencies, and by receiving financial support from foundations and other outside sources of capital.²⁰ Furthermore, observers expect up-front costs to decrease as the process for creating a SIB becomes more standardized.²¹

Third, SIBs must be designed carefully to ensure that a health-care SIB does not motivate unwanted behaviour. For example, extrinsic motivation, such as that presented by monetary incentives provided to front-line health workers, may crowd out intrinsic motivation, such as an altruistic desire to help patients, personal values, and self-esteem. Ellingsen and Johannesson, for example,²¹ propose a principal-agent model, which argues that agents care about social esteem and value the approval of those whom they themselves approve of more. A principal’s decision to impose a controlling incentive scheme to induce better performance may have the inadvertent effect of affecting the agent’s assessment of the principal’s character, thus showing how “an incentive that in isolation would have a positive effect on the agent’s behavior has a negative effect...because of what the incentive tells the agent about the principal”.²¹ One review found that in low- and middle-income countries, “financial incentives may lead to demoralization, reductions in intrinsic motivation, less trust between patients and providers”, and may decrease the quality of the health-care workforce in the long run, by selecting against those individuals who are intrinsically motivated to perform well.²²

Health-care SIBs should be designed to maximize the overall motivation of health-care workers in the long run. SIB designers could involve workers in designing incentives to balance their extrinsic and intrinsic motivation. Designers may include components that signal support for high-performing workers, as studies show that this increases motivation.¹⁷ Failure to design incentive structures well may increase the cost per unit of outcome, relative to a comparison group where intrinsic motivation exists.

SIBs must also be carefully designed, so as to ensure that evaluation systems are not gamed. In some cases, performance awards for specific outputs may cause front-line health workers to re-optimize services in a way that maximizes those outputs but reduces, or does not improve, the overall health outcomes of patients. When an individual is responsible for multiple tasks, the literature on “multitasking” suggests that rewarding

one task leads to a reduction in effort towards other tasks that are not similarly incentivized. For example, one study in Kenya found that rewarding decreases in malnutrition rates in schools led to a 15% decrease in teaching time, while another study in China found that incentivizing reduced student anaemia may have led to reduced teaching effort, and, in some cases, lower test scores.²² At the same time, when multiple outcomes are incentivized, providers may focus effort on outcomes that are considered easier to achieve, with the highest marginal return. For example, in Rwanda, performance incentives were “more effective in increasing institutional delivery rates among pregnant women who were already in contact with community health workers”, than in the harder task of initiating prenatal care with women who did not use the health-care system, especially because the payment for increasing institutional deliveries was much higher than that for increasing prenatal care visits.²² Unintended consequences of incentivizing good patient outcomes can also extend to “cherry picking”, where providers only choose to serve patients who are the healthiest or the easiest to treat, as opposed to those who are very sick or located in very remote areas.²²

Incentivizing specific services may also lead to inadvertent side-effects, such as motivating the falsification of performance-evaluation sheets.²¹ In one scheme in India, when a programme started paying staff more for delivering babies after office hours, the number of night-time deliveries suddenly and sharply increased, indicating that staff probably falsified data to get additional payments.²³

Poor design of initial SIBs may lead not only to suboptimal outcomes in the SIB programme, but also to unwillingness from the government to pursue additional SIBs. This concern is especially strong if poor design leads to public perception that providers in the SIB are “teaching to the test”, to maximize government payments.

CONCLUSION

SIBs may become one among several useful tools in advancing universal health care throughout South-East Asia. Studies have shown that chosen indicators that are incentivized in other RBF programmes show “significant improvement”, suggesting that health-care interventions could also benefit from SIBs.

There is initial evidence that SIBs may contribute to increased health-care coverage by decreasing OOP expenditure – a major barrier to the utilization of health-care services by the poor, and hold promise for creating interest alignment among government agencies, private investors and non-profit organizations, to improve the outcomes of overburdened and resource-constrained social service programmes.

SIBs are not a panacea, however, but they can help address some of the barriers to implementing a universal health-care system in the region. For example, a major barrier to the expansion of universal health care in South-East Asia is the cost-effectiveness of services and the inefficiency of service provision. SIBs can help expand health care by addressing this fundamental problem. Although SIBs may not increase the

total amount of funding available in the health-care system, they may introduce a new source of funding.

The potential for SIBs to improve the efficiency, quality and equity of health services merits further exploration of this innovative funding mechanism. Governments in South-East Asia should consider the implementation of further pilots to test this model, as a means towards the goal of improving health-care coverage.

REFERENCES

- Hannah A, Michael B, Ryan G, Jeffrey L, Alina S, Angela W. Social impact bonds: lessons learned so far. *Community Development Investment Review*. 2013;9(1):23-33. <http://www.frbsf.org/community-development/files/social-impact-bonds-lessons-learned.pdf> - accessed 27 November 2014.
- VanRoekel S, Greenblatt J. Pay for success: an innovative approach to improve results and save money. Office of Management and Budget. The White House, 2013. <http://www.whitehouse.gov/blog/2013/07/10/paying-success-innovative-approach-improve-results-and-save-money> - accessed 27 November 2014.
- Cabinet Office. Centre for social impact bonds. Government of the UK. Civil Service. No.10. <http://blogs.cabinetoffice.gov.uk/socialimpactbonds/about-sib/> - accessed 27 November 2014.
- Liebman JB. Social impact bonds: a promising new financing model to accelerate social innovation and improve government performance. Washington, DC: Center for American Progress, 2011. http://cdn.americanprogress.org/wp-content/uploads/issues/2011/02/pdf/social_impact_bonds.pdf - accessed 27 November 2014.
- Center for Global Development and Social Finance. Development impact bond working group report - consultation draft. Washington, DC, 2013. http://www.cgdev.org/sites/default/files/DIB_WG_REPORT.pdf - accessed 27 November 2014.
- Center for Global Development and Social Finance. Investing in social outcomes: development impact bonds. Washington, DC: Centre for Global Development and Social Finance, 2013. p. 26
- GAVI: The Vaccine Alliance. What we do. Geneva: GAVI. <http://www.gavialliance.org/about/mission/what/> - accessed 28 November 2014.
- International Finance Facility for Immunization. Supporting GAVI. London: IFFIm. <http://www.iffim.org/about/overview> - accessed 28 November 2014.
- Langenbrunner JC, Tandon A. Health financing systems in East Asia and the Pacific: early successes and current challenges. In: Coody D, Clements BJ, Gupta S. *The Economics of Public Health Care Reform in Advanced and Emerging Economies*. IMF Publications, 2012.
- Tangcharoensathien V, Patcharanarumol W, Ir P, et al. Health-financing reforms in Southeast Asia: challenges in achieving universal coverage. *Lancet*. 2011;375:1403-05.
- Tandon A, Zhuang J, Chatterji S. Inclusiveness of economic growth in the people's Republic of China: what do population health outcomes tell us? *Asian Development Review*. 2006 Jul;23(2):53-69.
- Scheffler RM. Pay for performance (P4P): programs in health services: what is the evidence? *World Health Report (2010): background paper*, 31. Geneva: WHO, 2010. <http://www.who.int/healthsystems/topics/financing/healthreport/P4PWHR2010ShefflerFINAL.pdf> - accessed 28 November 2014.
- Chollet D, Barrett A, Lake MP. Reducing hospital readmissions in New York State: a simulation analysis of alternative payment incentives. Mathematica Policy Research. New York: NYS Health Foundation, 2011. <http://nyshealthfoundation.org/uploads/resources/reducing-hospital-readmissions-payment-incentives-september-2011.pdf> - accessed 28 November 2014.
- GIZ, GIZ, KfW. Evidence brief: does results-based financing improve maternal and newborn health? p.8. <http://www.bmz.de/en/healthportal/knowledge/issues-discussion/RBF-maternal-health/index.jsp> - accessed 28 November 2014.
- Say L, Raine R. A systematic review of inequalities in the use of maternal health care in development countries: examining the scale of

- the problem and the importance of context. *Bulletin of the World Health Organization*. 2007 Oct;85(10):812-9. <http://www.who.int/bulletin/volumes/85/10/06-035659.pdf> - accessed 28 November 2014.
16. Rockefeller Foundation. Case study: preparing for a pay for success opportunity. *Social Innovation Financing*. Third Sector Capital Partners, April 2013. http://www.thirdsectorcap.org/wp-content/uploads/2013/04/Third-Sector_Roca_Preparing-for-Pay-for-Success-in-MA.pdf - accessed 28 November 2014.
 17. Eichler R, Levine R, eds. *Performance incentives for global health: potential and pitfalls*. Washington, DC: Center for Global Development. 2009. pp. 196-199.
 18. Basinga P, Gertler PJ, Binagwaho A, Soucat AL, Sturdy J, Vermeersch CM. Effect on maternal and child health services in Rwanda of payment to primary health care providers for performance: an impact evaluation. 2011 Apr 23;377(9775):1421-8. doi: 10.1016/S0140-6736(11)60177-3. <http://www.ncbi.nlm.nih.gov/pubmed/21515164> - accessed 28 November 2014.
 19. Saksena P, Xu K, Elovainio R, Perrot J. Health services utilization and out-of-pocket expenditure at public and private facilities in low-income countries. *World Health Report (2010): background paper, 20* <http://www.who.int/healthsystems/topics/financing/healthreport/20public-private.pdf> - accessed 28 November 2014.
 20. World Health Organization. *Health systems financing: the path to universal coverage*. World Health Report Geneva: WHO, 2010. p. 8. <http://www.who.int/healthsystems/topics/financing/healthreport/20public-private.pdf> - accessed 28 November 2014.
 21. Ellingsen T, Johannesson M. Pride and prejudice: the human side of incentive theory. *American Economic Review*. 2006 Jun; 98(3):990-1008. <https://www.aeaweb.org/articles.php?doi=10.1257/aer.98.3.990> - accessed 28 November 2014.
 22. Miller Grant, Babiarz KS. Pay-for-performance incentives in low- and middle-income country health programs. Working Paper 18932. Cambridge: National Bureau of Economic Research. 2013. <http://web.stanford.edu/~ngmiller/w18932.pdf> - accessed 28 November 2014.
 23. Vora KS, Mavalankar DV, Ramani KV, Upadhyaya M, Sharma B, Iyengar S, Gupta V, Iyengar K. Maternal health situation in India: a case study. *J Health Popul Nutr*. 2009 Apr;27(2): 184-201. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2761784/> - accessed 28 November 2014.

How to cite this article: Michael Belinsky, Michael Eddy, Johannes Lohmann, Michael George. The application of social impact bonds to universal health-care initiatives in South-East Asia. *WHO South-East Asia J Public Health*. 2014;3(3-4): 219–225.

Source of support: Funding for this article was received from the World Health Organization.

Conflict of interest: The authors are employees of Instiglio Inc., a not-for-profit organization with the mission to empower leaders in the social, public and private sectors to improve the impact of social programmes in developing countries, by linking funding to results. Instiglio advances its mission by creating social impact bonds and results-based financing programmes in low and middle-income countries.

Contributorship: MB and MG wrote the paper, ME and JL performed the research.

Acknowledgements: Professor Grant Miller and Professor David Bloom commented on the draft. Hannah Timmis provided research assistance for this paper.